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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,736	07/24/2003	In-gu Kwak	1349.1257	8060
21171	7590	10/20/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			TRAN, HOAN H	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/625,736

Applicant(s)

KWAK, IN-GU

Examiner

Hoan H. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed 08/05/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7,9-12 and 14-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7,9-12 and 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/05/2005 has been entered.

Specification

2. The disclosure is objected to because of the following informalities:

- Page 5, line 6, replace "262c" with --262b--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 14 is rejected under 35 U.S.C. 102(e) as being anticipated by Hirst et al.

[6,580,895]

Hirst et al. disclose an image fusing system [700] comprising a fusing roller [702]

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including an outer surface and rotating in a counterclockwise direction [Fig. 7], and an external heating roller [720] rotating in a clockwise direction [Fig. 7] for heating the outer surface of the fusing roller [Col. 8, line 50 to Col. 9, line 38].

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-5, 7, 9-12 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirst et al. in view of Romem [US 2004/0258440].

Hirst et al. disclose an image forming apparatus [Fig. 1] comprising an image bearing member [106], a developing device [118] including a developing roller [112], a transfer roller [128], a fixing device [102] including a pressure roller [138], a heating roller [136], an internal heating element [214] disposed within the heating roller [Fig. 2], a temperature sensor [202] for sensing the temperature of the heating roller, and a power control unit [150] for controlling power supplied to the heating roller [Col. 4, lines 30-65]; wherein the heating roller is a heat pipe of a closed tube type forms a closed spaced therein [Col. 6, lines 29-45] and has water inside of the closed space [Col. 6, lines 60-62]. However, Hirst et al. do not disclose the heating roller and the internal heating element are rotated in opposite directions.

Romem discloses a fixing device use in an image forming apparatus comprising a heating roller [Fig. 2] including an outer cylinder [16], an inner cylinder [18] and a heating element [11]

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disposed on the wall of the inner cylinder [paragraph 0037]; wherein the heating roller and the heating element are rotated in opposite directions [See Abstract].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the fixing device disclosed by Hirst et al. having the heating roller and the internal heating element are rotated in opposite directions as taught by Romem for the purpose of increasing the heat transfer rate for a given temperature differential across the water inside the closed space of the heating roller.

Regarding claim 3, Hirst et al. disclose the internal heating element can comprise an induction heating element [Col. 5, lines 64-65].

Regarding claim 7, Hirst et al. disclose the heating roller comprising an inner tube [210] and an outer tube [212]; wherein the tubes are hollow and composed of a metal such as aluminum, copper or steel [Col. 5, lines 46-50].

Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Hirst et al. [6,853,831] disclose a fixing device.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoan H. Tran whose telephone number is (571) 272-2141. The examiner can normally be reached from 8:30 AM - 5:00 PM Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Arthur Grimley can be reached at (571) 272-2136. The central office fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

HHT
October 16, 2005

A handwritten signature in black ink, appearing to read "Hoan Tran".

**HOAN TRAN
PRIMARY EXAMINER**